

Site: Shiloh Church Road Site

Task: Mound 2 Excavation

Date: 10/2/19

Predicted Predominant Wind Direction: WNW

Predicted Maximum Wind Speed: 10 mph



Ludlum 3030 Serial Number:	187982	Cal Due Date:	2/19/2020
Th-230 4π efficiency:	0.3244	Tc-99 4π efficiency:	0.3155
Pu-239 4π efficiency:	0.3996	C-14 4π efficiency:	0.0679
Am-241 4π efficiency:	0.3452	Sr-90 4π efficiency:	0.4264

Notes: AC-5 assigned to Excavation Team.

Radionuclide Air Sampling
Daily Summary
Shiloh Church Road Site
Halifax County, Virginia

Date: 10/2/19

Predicted Predominant Wind Direction: WNW

Public Results

Effluent Limits	Alpha (Ra-226)	9.00E-13	Beta (Pb-210)	6.00E-13
Air Sampler Location	% Of Effluent Concentration Limit	Alpha Result ($\mu\text{Ci/mL}$)	% Of Effluent Concentration Limit	Beta Result ($\mu\text{Ci/mL}$)
Perimeter-1 - South Break Area	<2.31%	-1.44E-14	<97.27%	-1.31E-13

Worker Results

Derived Air Concentrations	Alpha (Ra-226)	3.00E-10	Beta (Pb-210)	1.00E-10
Tasks Monitored	% Of Derived Air Concentration	Alpha Result ($\mu\text{Ci/mL}$)	% Of Derived Air Concentration	Beta Result ($\mu\text{Ci/mL}$)
AC-5 - Excavation Team	<0.08%	-1.39E-13	<8.22%	-6.09E-12

Comments:

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Air Sampling Unit: F&J LV-1

Calibrator Serial: 3067

Cal Due Date: 1/21/20

Calibrator Serial: 3067					Cal Due Date: 1/21/20					α isotope of concern				Ra-226		β isotope of concern				Pb-210	
Pre Flow Rate (LPM)		79.9								Post Flow Rate (LPM)					76.6						
Start Date/Time		10/2/19 8:15								Stop Date/Time					10/2/19 17:25						
										Total Liters					40611.8						
Analysis Date/Time		Hours After Collection	Bkg count time (min)		Sample count time (min)		α bkg (counts)	gross α (counts)	net α (cpm)	α MDA (μCi/mL)	α (μCi/mL)		β bkg (counts)	gross β (counts)	net β (cpm)	β MDA (μCi/mL)	β (μCi/mL)				
10/7/19 13:12		115.8	60		80		62	49	-0.42	2.08E-14	-1.44E-14		2385	3116	-0.8	5.84E-13	-1.31E-13				
Final Result		Hours After Collection	Bkg count time (min)		Sample count time (min)		α bkg (counts)	gross α (counts)	net α (cpm)	α MDA (μCi/mL)	α (μCi/mL)		β bkg (counts)	gross β (counts)	net β (cpm)	β MDA (μCi/mL)	β (μCi/mL)				
10/7/19 13:12		115.8	60		80		62	49	-0.42	2.08E-14	-1.44E-14		2385	3116	-0.8	5.84E-13	-1.31E-13				
										% Eff Criteria:		<2.31%						% Eff Criteria:		<97.27%	

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Air Sampling Unit: AirCheck XR5000 AC-5

Dry Cal Serial: 132112

Cal Due Date: 7/11/20

Dry Cal Serial: 132112					Cal Due Date: 7/11/20					α isotope of concern				Ra-226		β isotope of concern				Pb-210	
Pre Flow Rate (LPM)		4.622					Post Flow Rate (LPM)						5.090								
Start Date/Time		10/2/19 8:38					Stop Date/Time						10/2/19 17:20								
							Total Liters						2408.7								
Analysis Date/Time		Hours After Collection	Bkg count time (min)	Sample count time (min)	α bkg (counts)	gross α (counts)	net α (cpm)	α MDA (μCi/mL)	α (μCi/mL)	β bkg (counts)	gross β (counts)	net β (cpm)	β MDA (μCi/mL)	β (μCi/mL)							
10/4/19 11:10		41.8	120	80	83	36	-0.24	2.49E-13	-1.39E-13	4641	2917	-2.21	8.22E-12	-6.09E-12							
Final Result		Hours After Collection	Bkg count time (min)	Sample count time (min)	α bkg (counts)	gross α (counts)	net α (cpm)	α MDA (μCi/mL)	α (μCi/mL)	β bkg (counts)	gross β (counts)	net β (cpm)	β MDA (μCi/mL)	β (μCi/mL)							
10/4/19 11:10		41.8	120	80	83	36	-0.24	2.49E-13	-1.39E-13	4641	2917	-2.21	8.22E-12	-6.09E-12							
								% DAC:	<0.08%					% DAC:	<8.22%						

Notes: Assigned to Excavation Team.